REMARKS

The examiner originally designated the Office Communication dated 23 March 2007 as a Final Office Action. During phone conversations with the examiner on 10 April 2007 and 20 April 2007, the applicants' representative noted that the finality of the Office Action is improper because it cites new grounds of rejection against originally filed, non-amended claims. The examiner agreed and stated that the pending Office Action should be treated as a Non-final Office Action. The applicants filed an Interview Summary to that effect on 23 April 2007. Accordingly, the applicants are treating the pending Office Action as non-final.

In the pending Office Action, the examiner rejects independent claims 1 and 14 as obvious under §103 over Kumar (US6434367) in view of Nobukiyo (US6993294). Further, the examiner rejects independent claims 25 and 39 as obvious under §103 over Kumar in view of Nobukiyo and Chaponniere (US6937584). The applicants disagree and offer the following remarks in response. The applicants respectfully request that the examiner reconsider the rejections in light of the following remarks.

The claimed invention implements power control for a wireless transceiver. The transceiver sets a floating power gain for a traffic channel signal relative to an externally controlled power of a pilot channel signal, and adjusts that gain up or down responsive to reception quality feedback incoming from a remote transceiver. In this manner, the wireless transceiver implements a secondary or supplemental form of outer loop power control that is driven directly by the reception quality information for the floating (traffic) channel. Notably, this floating power gain does not interfere with the power control signals associated with ongoing closed inner and outer loop power control being carried out for the pilot channel signals.

Independent claims 1 and 14

Independent claim 1 claims a method of reverse link (uplink) power control implemented at a mobile station and corresponding to the floating power gain referred to above. Independent

claim 14 claims a corresponding mobile station. According to the claimed method, the mobile station transmits a pilot signal at a controlled transmit power to one or more remote transceivers. The claimed method further requires that the mobile station transmit one or more traffic channel signals at power gains related to the transmit power of the pilot signal, and adjust the power gains of the traffic channel signals responsive to reception quality feedback (e.g., good/bad reception indicators (ACK/NAK), quality bit indicators, erasure bit indicators, etc.) received at the mobile station from the remote transceiver(s).

Kumar describes an uplink power control system concerned with decoupling uplink power control signals transmitted on the downlink from the base station from all other downlink signals. According to Kumar, a base station evaluates uplink signals received from a mobile station. Based on the evaluation of the uplink signals, Kumar teaches generating an uplink power control signal. The base station transmits the uplink power control signal to the mobile station using a downlink control channel. The mobile station uses the received power control signals to control the transmission power level of uplink signals transmitted to the base station.

The examiner asserts that Kumar teaches the limitation "transmitting a pilot signal at a controlled transmit power from the mobile station to one or more remote transceivers." However, nothing in Kumar supports the examiner's assertion. Kumar only mentions pilot signals in col. 10, ll. 1 – 4, col. 14 and ll. 33 – 36. Kumar also mentions pilot signals in the context of "pilot signal strength measurements" in col. 10, ll. 50 – 51, col. 11, ll. 61 – 63, col. 14, ll. 12 – 13, and col. 19, ll. 59 – 63. In all cases, Kumar refers to pilot signals transmitted from a base station to the mobile station, where the pilot signal strength measurements represent the strength of the pilot signal received at the mobile station. Thus, contrary to the examiner's assertions, Kumar does not teach or suggest transmitting pilot signals at a controlled transmit power from the mobile station to one or more remote transceivers, as required by independent claims 1 and 14.

The examiner also asserts that Kumar teaches the claimed limitation "transmitting one or more traffic channel signals from the mobile station at one or more power gains directly or indirectly relative to the transmit power of the pilot signal." This assertion is based on col. 15, ll. 65 – 66 of Kumar, which states "traffic and control channels are set up symmetrically." The examiner interprets this statement to mean that the mobile station transmits traffic channel signals at power gains related to the transmit power of a pilot signal transmitted by the mobile station.

The symmetry Kumar describes has nothing to do with inter-relating the power gain of a traffic signal with the transmit power of a pilot signal, where both the traffic and pilot signals are transmitted in one direction, e.g., on the uplink as required by claims 1 and 14. Instead, Kumar explicitly defines this symmetry to mean that a dedicated traffic channel on the reverse link (uplink) has an associated dedicated power control channel on the forward link (downlink) (col. 15, line 66 - col. 16, line 2).

For at least the above reasons, Kumar does not satisfy the transmitting limitations of independent claims 1 and 14, as asserted by the examiner.

The examiner concedes that Kumar does not teach receiving the claimed reception quality feedback from one or more remote transceivers for the one or more traffic channels, as required by independent claims 1 and 14. For this teaching, the examiner relies on Nobukiyo. Nobukiyo describes a method and apparatus for downlink power control that reduces power consumption at a mobile station by only having the mobile station send quality information related to the downlink signals to the base station implementing the downlink power control on an as-needed basis.

Even if, *arguendo*, there is motivation to combine Nobukiyo with Kumar, neither reference teaches or suggests receiving reception quality feedback <u>at the mobile station</u>. Further, neither reference teaches or suggests using the quality feedback information to adjust a

power gain of a traffic signal transmitted by the mobile station, where the power gain is adjusted relative to the transmit power of a pilot signal transmitted by the mobile station and directly controlled by power control commands. Instead, Nobukiyo teaches measuring the quality feedback of received downlink signals at the mobile station and sending the measured quality feedback to the base station, where the base station uses the received quality feedback to control the power of downlink signals transmitted to the mobile station (col. 6, ll. 14 – 30). Thus, Nobukiyo does not teach receiving quality feedback information at the mobile station or using quality feedback information to adjust a power gain of an uplink traffic signal relative to an uplink pilot signal transmit power. Kumar teaches measuring the quality of service associated with uplink signals received at the base station, generating power control commands for the uplink based on the measured uplink signal quality, and sending the uplink power control commands to the mobile station via the downlink. Kumar has nothing to do with the transmission of any quality feedback information, much less the transmission of quality feedback information to the mobile station. Further, Kumar does not use quality feedback information to adjust a power gain of an uplink traffic signal relative to an uplink pilot signal transmit power. Thus, neither reference teaches transmitting or using quality feedback information in the same manner as claimed in claims 1 and 14.

Lastly, the applicants note there is no motivation to combine Nobukiyo with Kumar. First, it is unclear why the skilled person would or could apply the downlink power control of Nobukiyo to the uplink power control of Kumar. Further, because Kumar does not need to transmit quality feedback information from the mobile station to the base station, Kumar has no use for the mobile station power saving technique described by Nobukiyo. Thus, it is unclear why the skilled person would even want to modify Kumar to accommodate the teachings of Nobukiyo. The applicants also note that the examiner's proffered motivation (p. 4 of the Office

Action) is grammatically unclear. The §103 rejection fails as a matter of law for at least these reasons.

In light of the above remarks, the applicants submit that neither Kumar nor Nobukiyo, alone or in combination, teach or suggest each limitation of independent claims 1 and 14. Therefore, claims 1 and 14, and all claims depending therefrom are new and non-obvious over the cited art. The applicants request reconsideration. Should the examiner insist on maintaining this rejection, the applicants respectfully request that the examiner clarify the rejection, including the proffered motivation.

Claims 25 and 39

The examiner rejects independent claims 25 and 39 as obvious in view of the combination of Kumar, Nobukiyo, and Chaponniere. Chaponniere relates to downlink power control of fundamental and supplemental channel signals.

There is no motivation to combine these references. First, as discussed above, there is no motivation to combine the downlink power control of Nobukiyo with the uplink power control of Kumar. Further, because Chaponniere also relates to downlink power control, there is similarly no motivation to combine Chaponniere with Kumar.

The examiner's proffered motivation is that the combination would allow "various schemes for the mobile station to determine whether to adjust the power level on forward traffic channel." Because Kumar is not concerned with forward (downlink) power control, the proffered motivation does not make sense.

In addition, Kumar, Nobukiyo, and Chaponniere solve different power control problems, and thus, provide unrelated power control solutions. Kumar describes an uplink power control method concerned with decoupling uplink power control signals transmitted on the downlink from the base station from all other downlink signals. Nobukiyo describes a downlink power control solution that reduces unnecessary quality feedback transmissions from the mobile

station to the base station. Chaponniere describes a downlink power control solution concerned with controlling the relative power levels of supplemental and fundamental channels. Thus, while Kumar, Nobukiyo, and Chaponniere all generally relate to power control, these references are not concerned with the same power control problems, and further have unrelated solutions. Thus, one skilled in the art would not be motivated to combine these references. Further, because of the above-stated differences, it is unclear how one would or could modify Kumar to accommodate the teachings of Nobukiyo and/or Chaponniere. For at least these reasons, the §103 rejection fails as a matter of law.

Summary

In light of the above remarks, the applicants submit that independent claims 1, 14, 25, and 39, and all claims depending therefrom, are patentably distinct from the cited art. Thus, the applicants respectfully request that the examiner reconsider the rejections and issue a notice of allowance. Should any issues remain unresolved, the applicants request that the examiner call the undersigned so that any such issues may be expeditiously resolved. Further, should the examiner maintain any of the rejections, the applicants respectfully request that the examiner address each rebuttal point presented above so that the applicants may have a clear understanding of the rejections.

Respectfully submitted,

COATS & BENNETT, P.L.L.C.

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Jennifer K. Stewart
Registration No.: 53,639

1400 Crescent Green, Suite 300
Cary, NC 27518
Telephone: (919) 854-1844
Facsimile: (919) 854-2084